ACTUARIAL REPORT

on the

PUBLIC SERVICE GROUP INSURANCE FUND

as at

DECEMBER 31st, 1982

TURNBULL and TURNBULL

Chairman and Members,
Civil Service Superannuation Board,
Winnipeg, Manitoba.

1. Purpose

The Public Servants Insurance Act was adopted by the legislature in 1975. This Act created a Group Insurance Fund and gave the Board responsibility for administering the insurance plans which were established under the former Act or are established under this Act. The new Act also required a periodic actuarial report on the status of the Public Service Group Insurance Fund. The first 2 of these reports were made as at December 31st, 1976 (1976 Report) and December 31st, 1979 (1979 Report). Subsequent reports are required to be made at least once every 3 years thereafter. Therefore, an actuarial valuation of the Public Service Group Insurance Fund has been made as at December 31st, 1982.

The purpose of these reports is to:

(a) indicate the financial position of each part of the Public Service Group Insurance Fund (Fund),

(b) evaluate the sufficiency of the contribution rates currently being paid by employees and participating employers, and

(c) indicate the apparent break even premium rates for each plan of insurance and where appropriate, for each type of insurance protection based on the present and possible future distribution of insurance by age and sex.

2. Sources of Information

The data on which the valuation is based included:

(a) Diskettes containing a record for each employee who is participating in the Fund and is also participating in the Civil Service Superannuation Fund. Each record included: department code, employee number, social insurance number, sex, date of birth, actual earnings in 1982, proportion of year worked in 1982, dependent's insurance code, class of insurance code and insurance amount.

(b) A listing providing information for each employee who is participating in the Fund but is participating in the Teachers' Retirement Allowances Fund. Each record included: name, sex, social insurance number, date of birth, annual salary rate, class of insurance code, amount of insurance and dependent's insurance code.

(c) A listing providing information for each member of the Manitoba Legislative Assembly who is participating in the Fund. Each record included the information noted above.

(d) A computer printout providing information for each employee of the Workers' Compensation Board who is participating in the Fund but is participating in the Retirement Plan for Employees of the Workers' Compensation Board. Each record included: name, sex, social insurance number, date of birth, bi-weekly salary rate as at December 31st, 1982, date of employment, class of insurance code, amount of insurance and dependents' insurance code.

(e) A listing providing information for those Departmental Employees (casual and time-certificate) of the Department of Highways who are participating in the Fund but are not participating in the Civil Service Superannuation Fund. The following information was provided for each such employee: name, sex, social insurance number, date of birth, salary received in 1982, class of insurance code, amount of insurance and dependents' insurance code.

(f) A listing providing information for those Departmental Employees (casual and time-certificate) of the Department of Mines who are participating in the Fund but are not participating in the Civil Service Superannuation Fund. The following information was provided for each such employee: department code, employee number, name, sex, social insurance number, date of birth, salary received in 1982, class of insurance code, amount of insurance and dependents' insurance code.

(g) Diskettes containing a record for each retired employee who has life insurance protection as a result of participating in the Fund. Each record included: name, sex, social insurance number, date of birth, date of retirement, pensioner insurance type code, amount of insurance and dependents' insurance code.

(h) Three additional listings which provided equivalent information for each other retired employee who has life insurance as a result of participating in the Fund but is not receiving a pension from the Civil Service Superannuation Fund.

(i) Listings which provided information for each employee at December 31st, 1982 whose contributions were being waived as a result of total disability.

(j) A copy of the Auditor's Report and financial statements for the Public Service Group Insurance Fund for the policy years ending April 30th, 1980, April 30th, 1981 and April 30th, 1982. In addition, interim financial statements were provided as at December 31st, 1982.

(k) A copy of Policy Number G. 2750 under which The Canada Life Assurance Company provides life insurance and accidental death and disablement insurance.

(l) A copy of Policy Number G. 3105 under which The Canada Life Assurance Company provides dependents' life insurance.

(m) A copy of the Public Servants Insurance Act.

(n) A copy of the financial statements, prepared by The Canada Life Assurance Company, for the 2 insurance policies. These statements provided information for the policy years ending April 30th of 1981 and 1982. A preliminary statement of Canada Life additions and deductions was provided for the period May 1st, 1982 to April 30th, 1983.

(o) A copy of the Actuarial Report on the financial position of the Civil Service Superannuation Fund as at December 31st, 1980 (1980 Superannuation Fund Report), and as at December 31st, 1982 (1982 Superannuation Fund Report).

Data checks were performed to ensure reasonable accuracy and completeness of the information provided.

As a result of these checks, some of the information received was corrected, missing information was located and some persons were reclassified.

The salaries received in 1982 were increased to obtain annual salary rates as at December 31st, 1982. This increase was made by assuming that the increases in salaries during 1982 occurred in accordance with the assumptions made for future increases in salaries.

Some employees were participating in the Fund for only part of 1982. For these employees, the salary received was increased to reflect the salary that would have been received had the employee participated in the Fund throughout 1982.

3. Operation of the Plans

Three plans of insurance have been created in accordance with the authority granted under the Public Servants Insurance Act. These Plans consist of:

(a) The Group Life Insurance Plan for employees of the Province and its boards and agencies. Retired and disabled employees can be insured if they were insured prior to retirement or disablement. This insurance is provided by The Canada Life Assurance Company under Policy Number G. 2750.

(b) The Accidental Death and Disablement Insurance Plan for employees who are participating in the Group Life Insurance Plan. Former employees are not insured under this Plan. This insurance is now provided by The Canada Life Assurance Company under Policy Number G. 2750.

(c) The Dependents' Group Life Insurance Plan for the spouse and children of employees who are participating in the Group Life Insurance Plan. This insurance is provided by The Canada Life Assurance Company under Policy Number G. 3105.

No changes have been made in the benefits provided under the Insurance Plans since the date of the last actuarial valuation.

On May 1st, 1979, an insurance dividend was declared. Insurance dividends have been declared each year since that date. For the year ending May 31st. 1983, the insurance dividend equalled 5%.

The amount of the increase in life insurance protection as a result of a 5% dividend is the lesser of the following amounts:

Insurance Class	Amount of Increase
I	5% of actual insurance or $ 850
II	5% of actual insurance or $1,700
III	5% of actual insurance or $2,500

Contribution Rates

The contributions paid for employees' group life insurance protection and additional insurance protection are as follows:

	Per $1,000 of Life Insurance	
	Bi-weekly Rates	Monthly Rates
Group Life Insurance Protection:		
With regular disability protection	15.0¢	32.5¢
With installment disability protection	17.5	38.0
Additional Life Insurance Protection	1.0	2.2

The contributions paid for retired employees' life insurance are equal to 22¢ bi-weekly (48¢ monthly) at ages under 65 and 44¢ bi-weekly (96¢ monthly) at ages 65 to 70 per $1,000 of life insurance protection.

The contributions paid for accidental death and disablement insurance are equal to 2.1¢ bi-weekly (4.5¢ monthly) per $1,000 of insurance protection.

The contributions paid for dependents group life insurance protection equal $1.03 bi-weekly ($2.24 monthly) per unit of insurance protection.

The contributions are shared between the employees and their employers on the following basis:

- basic life insurance for employees:
  Liquor Commission employees - all paid by employer
  other employees - 2/3 paid by employees, 1/3 paid by the employer.

- additional life insurance for employees:
  all paid by employees.

- life insurance for retired employees:
  specified rate paid by retired employees, balance paid by the Fund.

- instalment disability insurance:
  all paid by employees.

- accidental death and disablement insurance:
  all paid by employers.

- dependents' life insurance:
  all paid by employees.

FINANCIAL ARRANGEMENTS WITH CANADA LIFE

Each of these policies describes the financial arrangements between the Province and Canada Life. These consist of:

(a) the premium rates which are to be paid for the various types of insurance,

(b) the charges made by Canada Life for the services it provides,

(c) the method to be used to determine experience refunds or deficits, and

(d) the effect which termination of the policy has on the amounts paid and received.

The current premium rates for each of the policies and the other significant financial arrangements under the policies are described below.

Premium Rates

The premium rates paid to Canada Life are as follows:

(i) Employees Insurance:

- 14.0¢ bi-weekly or 30¢ monthly per $1,000 of life insurance protection for employees (these amounts can be increased by up to 12% if justified by the claims experience during the policy year), plus

- 2.5¢ bi-weekly or 5.5¢ monthly per $1,000 for instalment disability insurance protection (Hydro employees only), plus

- $1.43 per month per $1,000 of life insurance protection for retired employees,

(ii) Accidental Death and Disablement Insurance:

- 2.0¢ bi-weekly or 4.5¢ monthly per $1,000 of accidental death and disablement insurance protection for employees.

(iii) Dependents' Insurance:

- $1.02 bi-weekly or $2.21 monthly per unit of insurance protection.

Group Life Insurance Plan

The policy issued by Canada Life for the Group Life Insurance Plan requires an annual tabulation of the amounts credited to and charged against the policy during the policy year just completed. The amounts credited to the policy consist of the premiums paid to Canada Life during the policy year, interest credited on any reserves held by Canada Life and the amount of any reserves which are cancelled during the year. Prior to July 1st, 1974, reserves were created whenever an employee became totally disabled. These reserves are cancelled if the employee subsequently recovers or attains age 65. If the employee dies before recovering or attaining age 65, an amount equal to the difference between the amount of insurance and the reserve is charged in the year of death.

The amounts charged against the policy consist of the death and instalment disability claims incurred under the policy during the year and the following charges which are withheld by Canada Life:

(a) conversion charges,

(b) charges made for services provided,

(c) premium taxes, and

(d) a risk charge.

The claims incurred under this policy include the payments made on the death of employees, retired employees or disabled employees and instalment payments made to employees of Hydro who became disabled.

Conversion charges are assessed if an employee elects to retain his life insurance protection when he retires or terminates employment. These charges are based on the amount of insurance being converted and on the age of the employee. The following table illustrates the current conversion charges assessed by Canada Life:

Age at Date of Conversion	Charges per $1,000 of Insurance Protection Converted
30	$ 30
40	45
50	85
60	151
65	175

For the 3-year period ending on April 30th, 1982, the average conversion charge was $65 per $1,000 of life insurance protection converted.

The charge made for the services provided by Canada Life is equal to 1.1% of premiums for the policy year ending April 30th, 1983. The actual amount of taxes assessed by the Province on insurance premiums is tabulated and charged.

It is possible for a number of participants in the Plan to die as a result of one accident. A limit has been placed on the maximum amount which can be charged against the policy if this happens. The limit chosen was $225,000. The charge for providing this limit is $5,710 per year.

Certain amounts are held by Canada Life as a result of a practice which existed prior to July 1st, 1974. As a result of that practice, a charge was made against the policy whenever an employee became disabled and Canada Life agreed to waive future premiums. This charge is equal to 75% of the face amount of the insurance protection in effect on the life of the disabled employee. If a disabled employee recovers or attains age 65, this protection is cancelled and the reserve is released. As at December 31st, 1982, this reserve was equal to $124,275.

No other reserves are being maintained by Canada Life under the policy.

If this policy is terminated, the surplus or deficit is calculated just the same as if the policy was still in effect. If on the final settlement date there is a surplus after taking into account any surplus or deficits carried forward from prior years, Canada Life will pay the amount of the surplus as a final settlement. If there is a deficit, Canada Life will be paid that amount from the Group Life Insurance part of the Fund or from the Province of Manitoba if this amount is insufficient.

In summary, the financial arrangement with Canada Life for the Group Life Insurance Plan has the following features:

(a) Experience refunds are paid by Canada Life if the amounts charged to the policy are less than the amounts credited to the policy; a deficit is carried forward to the following policy year.

(b) Interest is added to any surplus from the end of the policy year to the date the experience refund is paid by Canada Life.

(c) Interest is charged on any deficit from the end of the policy year to the date the deficit is recovered as a result of a subsequent surplus.

(d) No reserves are maintained by Canada Life other than the reserves created in respect of employees who became disabled prior to July 1st, 1974.

(e) Interest is credited to the policy on reserves created in respect of employees who became disabled prior to July 1st, 1974.

(f) Any surplus which emerges as a result of favourable claims experience occurring after the policy terminates is refunded to the policyholder; any deficit is recovered by payment from the policyholder.

(g) Interest is allowed on portion of cash flow at a rate equal to the rate of interest for 90-day Treasury Bills issued by the Province of Manitoba.

(h) Interest is added to death claims from date of death to date of payment.

The amounts remitted to Canada Life are based on the claims experience. The amounts remitted change when there is a significant change in the distribution of insurance by age and sex. For example, the amount remitted in regard to retired employees increases if the average age of retired employees increases.

All experience refunds are credited to the employees' Group Life Insurance part of the Fund.

The following amounts are paid out of this part of the Fund:

(a) The premiums payable in respect of employees who have become disabled. These premiums are paid at the same rate as premiums paid on behalf of other employees participating in the Group Life Insurance Plan.

(b) The amount which is needed in addition to the contributions made by retired employees in order to pay the premiums charged for life insurance after retirement.

(c) The amount which is needed to finance the insurance dividend.

(d) The administrative and other expenses charged to this part of the Fund.

Accidental Death and Disablement Insurance Plan

Protection under the Accidental Death and Disablement Insurance Plan is provided under Canada Life Policy Number G. 2750. The terms of this policy were most recently determined for the 3-year period commencing May 1st, 1982.

The agreed upon charges and allowances for this 3-year period are as follows:

(a) a charge equal to 1.1% of premiums plus $225 per claim, and

(b) actual expenses incurred by Canada Life by litigation or special adjudications, and

(c) actual premium taxes, and

(d) a risk charge equal to $5,710 per year.

The differences between the premium received under the policy and the deduction are carried forward to April 30th, 1985. At that time, the surplus, if any, will be refunded. Any deficit that exists at that time will be carried forward to be recovered in subsequent years. The foregoing arrangement will be in effect if the following condition is accepted. This condition becomes applicable if the policy is terminated. If the policy is terminated at any time, the amount of any deficit which exists will be paid to Canada Life from the Accidental Death and Disablement Insurance part of the Fund or from the Province of Manitoba if this amount is insufficient.

The premiums are based upon the amount of claims which are expected to occur each year. This expectation is based largely on the claims experience of prior years. In future years, if experience refunds become significant in relation to premiums, it could be expected that the premium rates would be reduced. Alternatively, if deficits occur, Canada Life would likely ask for a premium rate increase.

Dependents Insurance Plan

The premiums charged under the Dependents Group Life Insurance Plan are paid by those employees who have elected to insure their dependents. Each year, Canada Life prepares financial statements which compare the premiums received under this policy with the claims paid out of the policy, premium taxes and the agreed upon service charges made by Canada Life. If gains are realized, they are added to a premium rate stabilization reserve maintained by Canada Life. A deficit is deducted from this reserve. Interest is added to this reserve.

In 1982, Canada Life requested an increase in the premium rate for dependents insurance. The request was made because of the deficit position of the premium rate stabilization reserve. The reason for this deficit was investigated, and it was determined that a major contributing factor was low participation in the Dependent's Plan amongst employees in some parts of the Civil Service and in some Boards and Agencies. A campaign to promote the Plan was undertaken. The result was an increase in participation and a younger age distribution amongst dependents who are insured under the Plan. These changes should improve the financial position of the rate stabilization reserve in the future. They should also reduce the need to increase premiums for dependents insurance in the future.

4. Membership of the Plans

The information supplied indicated that the membership of the Plans as at December 31st, 1982 was as follows:

	Employees' Group Life Insurance Plan		Dependents' Group Life Insurance Plan	
	Group Life Insurance	Accidental Death and Disablement Insurance	Employees	Proportion of Employees with Group Life Insurance
Employees				
- males				
age less than 20	36	36	10	27.8%
20 - 24	881	867	215	24.4
25 - 29	1,972	1,929	1,030	52.2
30 - 34	2,584	2,535	1,878	72.7
35 - 39	2,573	2,521	2,127	82.7
40 - 44	1,922	1,898	1,707	88.8
45 - 49	1,689	1,653	1,481	87.7
50 - 54	1,629	1,587	1,413	86.7
55 - 59	1,388	1,342	1,215	87.5
60 or over	1,038	1,012	878	84.6
	15,712	15,380	11,954	76.1%
- females				
age less than 20	100	100	11	11.0%
20 - 24	1,583	1,571	415	26.2
25 - 29	2,151	2,138	861	40.0
30 - 34	1,563	1,551	825	52.8
35 - 39	1,046	1,037	650	62.1
40 - 44	816	806	561	68.8
45 - 49	645	640	437	67.8
50 - 54	617	611	386	62.6
55 - 59	478	477	257	53.8
60 or over	349	346	136	39.0
	9,348	9,277	4,539	48.6%
Former employees who are disabled				
- males	217	N/A	33	15.2%
- females	88	N/A	4	4.5
Former employees who are retired				
- males	1,999	N/A	816	40.8
- females	792	N/A	81	10.2
	28,156	24,657	17,427	61.9%

The following table shows the amounts of group life insurance in force as at December 31st, 1982:

	Males	Females	Total
(a) Employees	$1,001,021,431	$372,806,913	$1,373,828,344
(b) Retired employees	22,408,032	4,669,669	27,077,701
(c) Disabled employees	6,861,127	2,089,641	8,950,768
Totals	$1,030,290,590	$379,566,223	$1,409,856,813

These amounts do not include additional life insurance protection or the amount of insurance financed by the annual dividends.

Employees of the Liquor Commission are not insured under the Accidental Death and Disablement Plan part of the Fund.

5. Assumptions

The results contained in this Report are based on assumptions made in respect to those factors which will affect the status of the Fund, the level of contributions required or the premium rates charged in future years.

The factors which are of financial significance are:

(a) the rate of return which will be earned on the assets of the Fund,

(b) the rates at which salaries and, consequently, the amounts of life insurance protection will increase,

(c) the incidence of death while insured,

(d) the incidence of termination of employment,

(e) the incidence of becoming disabled,

(f) the value of benefits expected to be paid to an employee who becomes disabled,

(g) the incidence of retirement,

(h) the proportion of retired members who elect to continue to contribute for group life insurance protection after retirement,

(i) the charges for converting group insurance to individual insurance,

(j) the expense of administering the plans, including the charges made by Canada Life for the services it provides,

(k) the incidence of accidental death and disablement while insured,

(l) the incidence of death amongst insured dependents, the relative age of spouses, and the average number of children.

A description of these assumptions follows.

(a) Rate of Return on the Assets of the Fund

As at December 31st, 1982, the assets of the Fund consisted of cash in the bank, Government of Canada bonds, short-term investments with the Minister of Finance, amounts on deposit with Canada Life, accrued interest plus any amounts receivable less any amounts payable. A portion of the amounts on deposit with Canada Life are expected to be transferred to the Fund.

The rates of return earned on the assets of the Fund are as shown in the following table:

Period	Annual Rate of Return
01.05.75 - 30.04.76	5.58%
01.05.76 - 30.04.77	7.18
01.05.77 - 30.04.78	7.38
01.05.78 - 30.04.79	8.99
01.05.79 - 30.04.80	14.80
01.05.80 - 30.04.81	11.94
01.05.81 - 30.04.82	16.90
01.05.82 - 31.12.82	15.51 (annualized)
Average 01.05.75 - 31.12.82	10.80%

These rates of return were calculated using the book value of the amounts credited to the Fund and the investment income earned during each period.

The Fund may invest in any security that is an eligible investment for the Superannuation Fund. It is to be expected that a large portion of the Fund will, in future, be invested in bonds with a variety of terms to maturity. The balance of the Fund will likely continue to be invested in short-term notes and equivalent types of investments.

The rate of return assumed in an actuarial valuation should represent a reasonable balance between current investment rates and the level of investment earnings expected to be realized over the long term.

A good indication of the rates of return likely to be available in future years can be obtained from a study of the rates which have been available over a period in the past. It is important that the period studied be long enough to include the effect of a variety of economic conditions, and therefore, we have used the 20-year period ending December 31st, 1982.

A period as long as 20 years allows the effect of a variety of economic conditions to be reflected in the result obtained. It eliminates the fluctuations and distortions which can occur, over shorter periods of time, due to business conditions and government controls.

If each month, for 20 years, equal amounts had been invested in provincial government bonds, the average rate of return would have been 9.19% per year. This calculation was made by using yields obtained by using the McLeod Young Weir Provincial Bond Index.

It is desirable to make allowance for the possibility that the rates of return which are available in the future will be less than the rates of return which were available during the 20-year period.

On the basis of the foregoing considerations it is reasonable to anticipate that the Fund will earn a rate of return of at least 9.00% per year, on average, in the future.

The rate of return obtained on new investments is affected by the anticipated decrease in the purchasing power of money. During these 20 years there was significant decrease in the purchasing power of money. This decrease in purchasing power can be measured by calculating the annual percentage increase in the Consumer Price Index. Over the 20-year period, the Consumer Price Index increased at the rate of 6.53% per year. Therefore, it is reasonable to assume that the rate of inflation will be, on average, 6.50% per year each year in the future.

This decrease in purchasing power has had an effect on the rates of return obtained on fixed income investments. Knowledgeable investors have sought to offset this decrease by charging rates of interest which, on average, make allowance for the expected annual decrease in the purchasing power of money during the term of the investment. This allowance is added to the real rate of return desired by the investor to produce the rate of interest charged on that type of investment.

As a result, the assumed rate of return is made up of 2 components - the allowance for inflation, and the desired real rate of return.

If the inflationary component in the assumed rate of return of 9.00% is 6.50%, the real rate of return is expected to be 2.50% per year.

There are 2 reasons for identifying the 2 parts of the assumed rate of return. These are:

(i) the assumed rate of return is based on an assumption as to future economic conditions. So, also, is the assumption made as to the rate at which salaries will increase in future years. Consequently, in order to ensure consistency, the same allowance for inflation, i.e. 6.50% per year, is used in developing both actuarial assumptions, and

(ii) by identifying the real rate of return, a good indication can be obtained of the significance of the assumed rate in other than average economic conditions. The assumption of a real rate of return of 2.50% per year implies that investments obtained for the Fund are expected to yield a rate of return of 2.50% per year in excess of the average rate of inflation during the period these investments are held.

(b) Rates of Salary Increase

Salary increases occur as a result of:

(i) general increases in salary levels. These increases in salary are granted to groups of employees and reflect changes in economic conditions.

(ii) service, merit or promotional increases. These increases in salary are granted on an individual basis to recognize an employee's service and increased value to the organization.

Each class of increase is considered separately in developing the rates at which salaries can be expected to increase in the future.

(i) General Increases in Salary Levels

The 2 components of general increases in salaries are:

(A) the inflationary component. Employees seek increases in salary in order to offset increases in the cost of living.

(B) the productivity component or increase in the standard-of-living component. The productivity element consists of that portion of the general increases in salaries which are not offset by inflation. These increases are due to factors such as increased productivity or increases in qualifications required to fulfill a position. An increase in productivity is made possible by the greater use of automated or other equipment which permits an increase in the work output per employed person. Over long periods of time, these and other factors have caused employees' salaries to increase at rates which are substantially in excess of the increases in the cost of living.

The inflationary component of future increases in salaries should be the same as the inflationary component included in the rate of return assumed to be earned on the assets of the Fund in future years. As explained in the previous subsection of this Report, the period used requires the allowance made for inflation in the future to be at the rate of 6.50% per year.

The productivity component is based on a study of increases in the average salaries of employed persons in Canada during the 20-year period prior to December 31st, 1982. The productivity component is obtained by deducting the inflationary component from these increases in salaries. During this period, the productivity component was equal to 1.96% per year.

The productivity component has decreased steadily in recent years. In the last 6 years, the standard of living has decreased by an average of .30% per year.

Past increases in the standard of living were greater than increases in productivity during the same period. It is likely that at least part of this difference will need to be absorbed before normal increases occur. This will cause increases to be lower in the future than they have been over long periods in the past.

On the basis of these considerations, an allowance of 1.00% per year was made for the productivity component of general salary increases. This is lower than the allowance made in previous years. In the 1976 Report and the 1979 Report the allowance made for increases in salary due to productivity was equal to 1.25% per year.

The expected general increases in salary are obtained by adding together the increases expected to occur in each component. On that basis, general increases in salary are expected to occur at a rate equal to 7.50% per year in future, on average, this rate consisting of an average expected productivity increase of 1.00% per year plus an allowance for future inflation at a rate of 6.50% per year.

(ii) Service, Merit and Promotional Increases

The assumptions made regarding increases in salary due to service, merit or promotion are the same as those adopted for use in the 1980 Superannuation Fund Report.

(c) Incidence of Death While Insured

(i) Death in Service

The actual number of death claims experienced during the period to December 31st, 1982 was compared to the number of claims expected on the basis of the rates used in the 1979 Report. This comparison is summarized in the following table:

	01.01.77 - 31.12.79			01.01.80 - 31.12.82		
	Actual	Expected	Ratio	Actual	Expected	Ratio
Males	157	176	89%	128	183	70%
Females	30	38	78	26	39	67

Over the entire period, the ratios of the number of actual deaths to the number of expected deaths were 79% for males and 73% for females.

The results indicate that expected rates of mortality should be reduced to more closely reflect the experience.

The reduction in the rate of mortality in each age group is equal to 25% of the difference between the rates based on expected experience and actual experience over the entire period studied. As a result, the ratios of the actual number of deaths to the number of expected deaths based on the rates adopted for this Report were 85% and 80% over the entire period studied for males and females respectively.

(ii) Death after Retirement

Separate rates of mortality are applicable to:

(A) members who retired in at least average health, and

(B) members who retired due to total disability.

The experience among these 2 groups is described below:

(A) Members who Retired in at Least Average Health

The actual number of deaths experienced among retired members of the Group Insurance Plan during the period to December 31st, 1982 was compared to the number of deaths expected on the basis of the rates assumed in the 1979 Report. This comparison is summarized in the following table:

	01.01.80 - 31.12.82		
	Actual	Expected	Ratio
Males	114	146	78%
Females	21	28	74

The results over the 3-year period ending December 31st, 1982 indicate that the current expected rates of mortality are higher than can be expected in the future. Accordingly, expected rates of mortality have been reduced.

The reduction in the expected rates of mortality in each age group is equal to 25% of the difference between the rates of mortality based on expected and actual experience.

As a result, the ratios of the actual number of deaths to the expected number, based on the rates adopted for this Report were 84% and 81% for males and females respectively over the most recent 3-year period.

(B) Members who Retired due to Total Disability

The actual experience among members who retired due to total disability was studied for the 1980 Superannuation Fund Report. The same rates of mortality as used for the 1980 Superannuation Fund Report have been used for this Report.

(d) Incidence of Termination of Employment

The rates of termination of employment were obtained from the 1980 Superannuation Fund Report. The rates of termination were obtained by adding together the terminations leading to the payment of a cash refund and the termination leading to the retention of a deferred pension.

A separate study has been made to determine the effect which the length of service has on the rates of termination. It has been found that the rates of termination applicable to employees with shorter periods of service are greater than the rates of termination applicable to employees with longer periods of service. The relationship between the rates of termination at the same age for persons who have shorter periods of service and the rates applicable to persons of the same age who have longer periods of service can be expressed in terms of ratios. For example, it has been found that for employees who have completed one year of service, but less than 2 years of service, the rates of termination are approximately 60% greater than those rates applicable to employees who have completed at least 5 years of service. Factors were developed similarly to provide the relationship between the rates of termination among employees with 2 but less than 3 years of service, 3 but less than 4 years of service and 4 but less than 5 years of service, each compared to the rates of termination among employees with at least 5 years of service.

The factors developed using this study were adopted for this Report.

(e) Incidence of Disability

The expected incidence of disability is based on information available concerning claims made under the waiver of premium benefit provided in group life insurance policies. The basic rates reflect the actual experience amongst employees of state and provincial governments.

Using these rates, a study was made of the expected number of waiver of contribution claims compared with the actual number of waiver of contribution claims during the 6-year period from January 1st, 1977 to December 31st, 1982. The results are summarized as follows:

	01.01.77 - 31.12.79			01.01.80 - 31.12.82		
	Actual	Expected	Ratio	Actual	Expected	Ratio
Males	67	84	80%	76	90	85%
Females	30	22	134	28	23	122

Over the entire period, the ratios of the number of actual disability claims to the number of expected disability claims were 82% and 129% for males and females respectively.

These results indicate that the assumed rates of disability do not closely reflect the rates to be expected in the future. Accordingly, expected rates of disability have been reduced for males and increased for females.

The reduction in the assumed rates at each age group reduced by 25% of the difference between actual and assumed experience.

As a result, the ratios of the actual number of disability claims to the number of expected disability claims based on the rates adopted for this Report were 87% and 122% for males and females respectively.

(f) Value of Disability Benefits

If a member becomes disabled, he is eligible for one of the following benefits:

(i) waiver of contributions (employees other than Hydro employees who are less than age 60) - this benefit permits the continuation of an employee's insurance if the employee becomes totally and permanently disabled. At age 65 the employee's insurance reduces to 25% of its former amount, and at age 70 it reduces to $1,000. The contributions which the employee would otherwise make are waived up to age 65. After age 65, contributions resume. The amount contributed is the same as the amount contributed by other retired employees.

(ii) instalment disability benefit (Hydro employees who are less than age 60) - the disabled employee receives 60 equal monthly instalments, which are equal in value to his amount of insurance if he becomes totally and permanently disabled prior to age 60. If the employee dies before all 60 instalments are paid, the value of the remaining instalments is paid in a lump sum to his beneficiary. Contributions are not required while instalments are being paid.

The following assumptions were used to determine the value at the date of disability of the expected benefits and contributions:

(i) waiver of contribution benefits - the value is based upon the termination rates (recovery and death) contained in the 1970 Group Life Premium-Waiver Valuation Table. The rates contained in this table are based upon the combined experience of 12 major life insurance companies. These rates were used to estimate the likelihood, at each duration of disablement, that a disabled person will recover or die while his insurance is in force.

(ii) instalment disability benefit - the value is equal to the amount of the employee's insurance at his date of disability. This amount is charged against the Policy when an installment disability claim occurs.

(g) Incidence of Retirement

The rates of retirement adopted for this Report were obtained from the 1980 Superannuation Fund Report. The rates reflect only retirements for reasons other than disability.

(h) Incidence of Continuing Insurance Protection After Retirement

Upon retiring, a participant may elect to cease making contributions for Group Life Insurance. Retired employees electing this option receive $1,000 of paid-up life insurance. A very large percentage of participants continue to make contributions, and receive the full insurance protection available. Over the one-year period ending December 31st, 1982, 211 of 248 employees who retired elected to continue making contributions.

We have assumed that all retiring participants will continue to make contributions for Group Life Insurance.

This assumption makes an allowance for the possibility that, in future, a larger proportion of employees will elect to contribute for Group Life Insurance upon retirement.

(i) Conversion Charges

The following procedure was used to evaluate the likelihood that an employee will convert his group life insurance to individual insurance if his insurance is terminating or being reduced.

In recent years, there has been an increase in the proportion of terminating employees who elect to convert their insurance. A study of actual experience in the Group Life Insurance Plan for the 3-year period ending December 31st, 1982 indicated that the conversion privilege is chosen by about 5 employees out of every 1,000 employees who have an opportunity to convert their insurance.

We have assumed that the conversion privilege will be exercised in future, by this same proportion of terminating employees.

It was anticipated that a special charge of $75 would be made for each $1,000 of life insurance converted.

(j) Expenses of Administering the Plans

(i) Civil Service Superannuation Board

The administration charges made by The Civil Service Superannuation Board are equal to .75% of the contributions made to the various plans. It has been anticipated that this method of determining charges will continue indefinitely in the future.

(ii) Canada Life

For the policy year beginning April 1st, 1979, Canada Life has indicated that its total charges will not exceed the following proportions of the premiums it receives in respect to each Plan:

(A) Employees' Group Life Insurance Plan - 1.1%

(B) Accidental Death and Disablement Plan - 1.1% plus $225 per claim (based on premium rate of 2.3¢ bi-weekly)

(C) Dependents' Group Life Insurance Plan - 1.1% plus $25 per dependent claim.

It has been anticipated that these charges will continue to be in effect in future policy years.

(k) Incidence of Accidental Death and Disablement while Insured

The actual number of Accidental Death and Disablement claims experienced during the period to December 31st, 1982 was compared to the number of claims expected on the basis of the rates assumed in the 1979 Report. This comparison is summarized in the following table:

	01.01.77 - 31.12.79			01.01.80 - 31.12.82		
	Actual	Expected	Ratio	Actual	Expected	Ratio
Males and Females	37	30	123%	27	29	92%

Over the entire period, the ratio of the number of actual claims to the number of expected claims was 108%. The rates assumed in this Report are the same as were assumed in the 1979 Report.

Experience was more favourable in the most recent 3-year period. If this trend continues, it will be possible to reduce expected rates of accidental death and disablement in future Reports on the financial position of the Plan.

(1) Dependents

The information provided identified the employees who have dependent insurance protection. No information was provided in respect of dependents.

Use of other information concerning dependents made it possible to estimate the average amount of insurance protection provided on the lives of dependents as a result of this Plan. The ages of the spouse and the children are related to the age of the employee.

A study was made of the expected number of spouses' and children's death claims compared with the actual number of death claims during the period to December 31st, 1982 on the basis of the rates used in the 1979 Report. The following results were produced:

	01.01.80 - 31.12.82		
	Actual	Expected	Ratio
Male Spouses	44	36	122%
Female Spouses	60	52	115
Children	26	27	96

These results must be interpreted cautiously, since the expected number of claims includes the effects of the assumptions as to mortality among dependents, the relative age of spouses and the average number of dependents. The expected number of claims is also based on the proportion of employees in each age group who were participating in the Dependents Insurance Plan as at June, 1982. This is necessary because no information is provided about the actual ages of spouses or the actual number of children per family. Over the 3-year period ending December 31st, 1982, the number of children who died was 96% of the expected number of death claims. Therefore, the current assumptions are an accurate representation of the combined effect of the rates of mortality among children and the average number of children per family. For the purposes of this Report, we have assumed the same rates of mortality among children and the same average number of children as were assumed for the 1979 Report.

Over the 3-year period ending December 31st, 1982, the number of actual death claims among male and female spouses were 122% and 115% respectively of the expected number of death claims. The number of expected claims were determined on the basis of mortality assumptions used in the 1979 Report.

This unfavourable result is believed to be caused by the lower than expected level of participation by employees in the Dependents' Insurance Plan. The level of participation has increased recently. We have assumed that the increased level of participation will continue to be achieved in the future. If it is, there will be a significant improvement in the actual rates of mortality. Therefore, we have assumed the same rates of mortality for spouses as were used in the 1979 Report. The expected rates of mortality are also based on the assumption that spouses are subject to the rates of mortality of employees of the same sex and age.

These rates of mortality are higher than the rates of mortality assumed for employees in this Report.

We have assumed the same differences in average age between spouses and employees as was used in the 1979 Report.

6. Summary of Actuarial Assumptions Used in this Report

(a) Rate of Return on the Assets of the Fund - 9.00% per year.

(b) Annual Rates of Salary Increase (including an allowance of 7.50% per year for future general increases in salary levels):

Age	Males	Females
20 - 25	15.9%	14.0%
25 - 30	13.0	11.7
30 - 35	10.8	10.9
35 - 40	9.5	10.2
40 - 45	8.9	10.1
45 - 50	8.6	9.2
50 - 55	8.3	8.7
55 - 60	8.1	8.5
60 - 65	7.9	8.2

(c) Incidence of Death While Insured

(i) Annual Rates of Death in Service (for selected ages):

Attained Age	Males	Females
20	.0015	.0008
25	.0010	.0007
30	.0008	.0007
35	.0012	.0010
40	.0019	.0012
45	.0032	.0015
50	.0054	.0022
55	.0087	.0031
60	.0121	.0044
64	.0142	.0053

(ii) Annual Rates of Death After Retirement (for selected ages):

Attained Age	Non-Disabled		Disabled	
	Males	Females	Males	Females
40	N/A	N/A	.0756	.0403
50	N/A	N/A	.0674	.0359
60	.0129	.0048	.0713	.0380
70	.0299	.0146	.0971	.0518
80	.0761	.0487	.1749	.0933
90	.1937	.1591	.3256	.1852
100	.4333	.4134	1.0000	1.0000

(d) Termination of employment

(i) Annual Rates of Termination of Service

(A) Annual rates of termination applicable to employees with 5 or more years of service (for selected ages):

Attained Age	Males	Females
20	.1040	.2280
25	.0718	.1965
30	.0472	.1330
35	.0298	.0680
40	.0198	.0500
45	.0142	.0380
50	.0098	.0295
55	.0062	.0160
60	.0050	.0075

(B) The rates of termination applicable to employees with less than 5 years of service were obtained by multiplying the above rates by the appropriate factor from the following table:

Service	Factor Applied to Termination Rates
Less than 1 year	2.00
1 but less than 2 years	1.60
2 but less than 3 years	1.40
3 but less than 4 years	1.25
4 but less than 5 years	1.10

(e) Annual Rates of Retirement due to Disability (for selected ages):

Attained Age	Males	Females
20	.00002	.00017
25	.00006	.00011
30	.00008	.00014
35	.00014	.00025
40	.00026	.00051
45	.00043	.00083
50	.00096	.00149
55	.00470	.00361
60	.01159	.00617
64	.01772	.00664

(f) Value of Waiver of Contributions Benefit:

Attained Age	Value of Waiver of Contributions Benefit at Approval of Disability (per $1,000 of Insurance)
22	$108
27	164
32	216
37	261
42	305
47	345
52	365
57	346
62	189

(g) Annual Rates of Retirement for Reasons other than Disability (for selected ages):

Attained Age	Males	Females
55	.0266	.0423
56	.0156	.0219
58	.0232	.0388
60	.0832	.1306
62	.1138	.1676
64	.1709	.2288
65	1.0000	1.0000

(h) Proportion of Retirements where Post-retirement Insurance Protection is expected to be elected (for selected ages):

All retiring employees are assumed to elect the full amount of life insurance protection available.

(i) Charges for Converting Group Insurance to Individual Insurance -

It has been assumed that out of each 1,000 terminations, 5 persons will elect to convert their group life insurance to individual life insurance and that Canada Life will levy a conversion charge of $75 per $1,000 of life insurance converted.

(j) Administrative and Other Charges:

(i) Civil Service Superannuation Board

- charge equal to .75% of total contributions made to all plans.

(ii) Canada Life

- charge equal to 1.1% of premium for group life insurance protection, plus
- 1.1% of premium for accidental death and disablement insurance protection, plus $225 per accidental death and disablement claim, plus
- 1.1% of premium for dependents' life insurance protection plus $25 per dependent claim.

(k) Annual Rates of Accidental Death and Disablement (for selected ages):

Attained Age	Rates
20	.000639
30	.000327
40	.000328
50	.000398
60	.000533

(1) Dependents

(i) Annual rates of death among insured dependent spouses:

Attained Age	Males Spouses	Females Spouses
20	.0015	.0007
30	.0009	.0004
40	.0018	.0009
50	.0055	.0027
60	.0140	.0070

(ii) Relative age of insured dependent spouses:

Attained Age of Employee	Attained Age of Male Spouses	Attained Age of Female Spouses
20	22	19
30	32	28
40	43	37
50	53	46
60	64	55

(iii) Average number of children and rates of death of insured dependents:

	Males		Females	
Attained Age of Employee	Number of Average Children	Annual Rate of Death for Each Insured Child	Number of Average Children	Annual Rate of Death for Each Insured Child
20	0.2	.00139	0.1	.00139
30	1.4	.00050	0.8	.00046
40	2.4	.00043	1.8	.00044
50	1.4	.00045	0.5	.00047
60	0.5	.00047	0.0	N/A

7. Valuation Results - Present Participants

The benefits promised by the 3 Plans are financed in part, by the payment of premiums and in part, by the retention of amounts in the Fund.

The Fund is responsible for the payment of:

(a) premiums to the insurer when an insured employee becomes totally disabled,

(b) the portion of the premiums not financed by the contributions made by retired employees,

(c) a share of the expenses incurred by the Superannuation Board, and

(d) the amount, if any, by which any of the premiums exceed the contributions.

The Fund fulfills these responsibilities by:

(a) utilizing assets created as a result of the favourable claims experience in the past, and

(b) retaining any difference if the contributions are greater than the premiums.

The Balance Sheets which follow indicate the relationship between the assets and the liabilities of the Fund. The portion of the contributions which are paid in premiums are shown only if, by showing them, the financial position of that portion of the Fund is affected.

The actuarial valuation is the process whereby this relationship is quantified. The present value of the liabilities of the Fund is determined separately for each benefit which the Fund provides. For each participant of the Fund, the probability of a benefit becoming payable at each age and the amount of that benefit is determined on the basis of the actuarial assumptions outlined in the previous section of this Report. The probability is multiplied by the amount of the benefit in order to determine the expected amount of benefit at each age. This is multiplied by a discount factor to deduct the portion of the benefit which it is expected will be financed by future investment earnings. Through this process, the present value of the benefit which each participant could receive at each possible age in the future is determined. The resulting present values are added together to produce the amounts shown as liabilities on the Valuation Balance Sheets.

The present value of the contributions which are expected to be received in the future from employees already participating in the Fund are valued in a similar way. The expected contributions for each year in the future are multiplied by the probability, based on the actuarial assumptions, that the employee will still be participating in the Plan at each age in the future and by a discount factor. The results are added together to produce the value of future contributions shown as assets on the Valuation Balance Sheets.

The estimate of the financial position of the Fund was improved by showing, as a liability, the amount expected to be utilized out of the disability reserve held by Canada Life instead of the actual disability reserve. The method used to obtain the disability reserve does not make sufficient allowance for the possibility that the disabled employee will still be alive at age 65 when the amount of insurance on his life automatically decreases.

The Valuation Balance Sheets reflect the financial position of each part of the Fund with respect only to the present participants. While new contributors will affect the financial position, the number of these and their distribution by age, sex and amount of insurance is much less easy to predict than the other factors taken into account in the valuation.

The following Balance Sheets anticipate that the relationship between the contributions, paid by employees or other persons participating in the Plan and on their behalf by participating employers, and the premiums paid to Canada Life will remain the same as it existed at the time this Report was prepared.

I

The Public Service Group Insurance Fund - Employees' Group Life Insurance Plan Part
Balance Sheet
as at December 31st, 1982

ASSETS

Plan's share of	
- Cash in Bank	$ 48,285
- Deposits to be transferred	(48,224)
- Investments at amortized cost	9,901,260
- Accrued interest on investments	255,280
Due from Dependents' Group Life Insurance Plan	32,705
Funds held by Canada Life	
- disability reserves	124,275
- amounts to be transferred to the Fund	819,843
Value of future contributions	
- in excess of the contributions required to provide life insurance	8,302,200
- for instalment disability	650,500
- after retirement by those already retired	892,100
- after retirement by future retireds who are not disabled	3,588,800
- after retirement by future retireds who are disabled	358,900
TOTAL ASSETS	$24,925,924

I

The Public Service Group Insurance Fund
- Employees' Group Life Insurance Plan Part
Balance Sheet
as at December 31st, 1982

LIABILITIES	
Accounts Payable	
- to Superannuation Board	$ 33,880
Investment Reserve	64,019
Value of insurance benefits provided after future retirements	8,136,600
Value of instalment payments to Hydro employees who become disabled in future	1,034,900
Value of the waiver of future premiums in the event of disablement	
- Hydro employees	824,800
- Non-Hydro employees	3,923,800
Value of future insurance benefits for already disabled employees	2,449,900
Value of insurance benefits for those who are already retired	2,642,200
Value of future administration expenses during next 3 years	136,300
Value of 5% insurance dividend 1982 - 1983	283,473
SURPLUS	5,396,052
TOTAL LIABILITIES	$24,925,924

II

The Public Service Group Insurance Fund
Accidental Death and Disablement Insurance Part
Balance Sheet
as at December 31st, 1982

ASSETS	
Plan's share of	
- funds held by The Minister of Finance in Trust	$ 635,264
- funds to be transferred from Canada Life	235,003
Value of future contributions	
- in excess of contributions required to provide insurance	1,114,700
TOTAL ASSETS	$1,984,967
LIABILITIES	
Accounts Payable	$ 3,895
Investment Reserve	1,248
Value of future administration expenses during next 3 years	15,625
Surplus	1,964,199
TOTAL LIABILITIES	$1,984,967

III

The Public Service Group Insurance Fund
Dependents Group Life Insurance Plan Part
Balance Sheet
as at December 31st, 1982

ASSETS	
Value of future contributions	
- in excess of contributions required to provide insurance	$337,300
- after retirement by those already retired	93,800
- after retirement by future retireds	319,500
TOTAL ASSETS	$750,600
LIABILITIES	
Due to Group Life Insurance Plan	$ 32,705
Deficit in Rate Stabilization Fund with Canada Life	163,352
Value of insurance benefits provided after future retirements	412,800
Value of insurance benefits for those who have already retired	128,300
Value of future administration expenses during next 3 years	9,100
Surplus	4,343
TOTAL LIABILITIES	$750,600

8. Analysis of Valuation Results

(a) The 1979 Report indicated that the Employees' Group Life Insurance Plan part of the Fund had a deficit of $603,751 as at December 31st, 1979. By December 31st, 1982 it was expected that this deficit had been reduced to $88,815.

The deficit plus interest to December 31st, 1982 is equal to $755,283. This accumulated deficit was reduced by the following gains from actual experience:

(i) the gain or loss from the year's operations under Policy Number G. 2750 issued by Canada Life is equal to the premium less actual claims less charges assessed by Canada Life. The premium used for this purpose is equal to the transfer from the Fund to Canada Life for dividend amounts of insurance plus the expected premium calculated by using the break-even premium rates contained in the 1979 Report. The following table shows the gain or loss from the year's operations over the 3 policy years which ended during the period under review:

Policy Year Ending April 30th	Gain (Loss)
1980	$ (473,344)
1981	1,246,310
1982	(333,984)
Total	$ 438,982

(ii) investment income was earned on the Fund at a rate which is higher than the rate assumed in the 1979 Report. This caused the amount of investment income received to be $1,267,900 more than was expected to be received.

The insurance dividend was financed by transfer from the Fund to Canada Life. The following table shows the amount of the transfer during the last 3 policy years:

Policy Year Ending April 30th	Amount of Dividend
1981	$ 480,243
1982	276,698
1983	283,473
Total	$1,040,414

Allowance has been made in the liabilities as at December 31st, 1982 for the dividend amount for the policy year ending April 30th, 1983.

The total change in the financial position as a result of gains due to experience and dividend allocations is $666,468. On this basis, the deficit has been reduced to $88,815 as at December 31st, 1982.

The assumptions used in this valuation differ from the assumptions used in the 1979 Report. For example, the rate of return expected to be earned on the assets of the Fund was increased from 7.75% to 9.00% per year.

The net effect of changing the assumptions caused the financial position of the Employee Group Life Insurance part of the Fund to improve by $5,396,052. The assumptions which have had the most significant effect on the results are the increase in the rate of return expected to be earned on the Fund, the reduction in the rates of mortality expected to occur in the future, and the changes made to the anticipated rate of disablement.

(b) The 1979 Report indicated that the Accidental Death and Disablement Insurance part of the Fund had a surplus of $435,323 as at December 31st, 1979.

The surplus was retained in order to:

(i) help ensure that the lower rates of contribution could be continued in effect, and

(ii) provide for the additional payments which would have to be made to Canada Life if this part of the policy is terminated before April 30th, 1982.

The increase in surplus since December 31st, 1979 is largely due to:

(i) the more favourable than expected claims experience which has occurred in the policy years completed since that date.

(ii) a reduction in the expected level of mortality for this insurance protection in the future.

(c) The 1979 Report indicated that the Dependents Group Life Insurance Plan part of the Fund had a deficit of $109,489 as at December 31st, 1979. A small surplus has been produced as at December 31st, 1982.

This surplus is due to changes in the anticipated rate of disablement amongst employees and economic assumptions used to calculate the liabilities. A deficit held in the Rate Stabilization Fund with Canada Life of $163,352 has been included on the Balance Sheet. The reduction in the mortality expected in the future is due in part to the increased level of participation in the Plan.

9. Premium Rates

The premium rates which are needed in order to provide the insurance protection promised under each Plan and the agreed upon charges for services and other costs have been determined on the basis of the assumptions described in Section 5 of this Report and the distribution of insurance by age and sex as at December 31st, 1982.

The results of these calculations are as follows:

(a) Employees Group Life Insurance

(i) Non-Hydro Employees

- 12.42¢ bi-weekly or 27.02¢ monthly per $1,000 of life insurance

(ii) Hydro Employees

- 14.68¢ bi-weekly or 31.94¢ monthly per $1,000 of life insurance

(iii) Additional premiums are needed if an insurance dividend is granted for a policy year. The amount needed to finance an insurance dividend is determined by the size of the dividend.

For example, if the dividend is equal to 5% of the amount applicable to the insurance classification in effect on May 1st, 1979, the additional premium is 1¢ bi-weekly per $1,000 of employees group life insurance protection. If the dividend is equal to 10% of the amount applicable to the insurance classification in effect on May 1st, 1979, the additional premium is 2¢ bi-weekly per $1,000 of employees group life insurance protection.

(b) Accidental Death and Disablement Insurance

- 1.54¢ bi-weekly or 3.35¢ monthly per $1,000 of insurance.

(c) Dependents Group Life Insurance

- 93.45¢ bi-weekly or $2.03 monthly per unit of dependents' insurance.

The foregoing information indicates that some reduction could be made to the premium rates currently being paid for employees group life insurance.

The premium rate for accidental death and disablement insurance has been renegotiated for the 3-year period beginning May 1st, 1982. The experience indicates that a further reduction in premium rates may be able to be obtained when this period is completed.

A number of years of favourable claims experience will be needed before it is possible to justify a reduction in the premium rates being charged for dependents' group life insurance protection.

It is important for a distinction to be made on all plans between premiums and contributions. At present, this distinction is made only for employees' group life insurance. The distinction should also be made for accidental death and disablement insurance and for dependents' insurance. At present, all amounts remitted for accidental death and disablement insurance and dependents' insurance are considered to be premiums by Canada Life.

10. Comments and Recommendations

During the last 3 years, the financial position of each part of the Fund has improved by a significant amount. These improvements have been made possible by more favourable than expected actual experience. Further improvement in the financial position occurred as result of the use of a portion of that actual experience in determining the expected experience in the future.

The assets of each part of the Fund together with the contributions expected to be made in future by, and on behalf of, present employees and retired employees are sufficient to pay the benefits promised under each Plan, as these benefits become due.

Adoption of the proposed changes to the Employees' Group Life Insurance Plan will have some effect on the surplus. This will occur because the rates of contribution reflect actual experience to the same extent as such experience has been reflected in this Report. There will be some further effect on surplus if some of the characteristics of the Plan being proposed are implemented more quickly than would be possible if it was necessary to rely only on the contributions expected to be paid in the future.

The improvement in experience will make it possible to discuss with Canada Life, the premium rates which are applicable to the Employees' Group Life Insurance Plan and the Accidental Death and Disablement Insurance Plan.

It is contemplated that these negotiations will be successful in causing the premium rates to be reduced in future to the rates which are justified on the basis of actual experience. These are the rates which have been used in this Report.

We shall be pleased to discuss this Report with you at your convenience.

DATED at Winnipeg this 6th day of February, 1984.

Respectfully submitted,

Actuary